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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	53	703/6.ccls. and @pd>"20060901"	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2007/01/12 15:31

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L2	60	smoke same animation	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2007/01/12 15:37
L3	289	smoke same simulation	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2007/01/12 15:37

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[Visual simulation of **smoke** - group of 37 »](#)

R Fedkiw, J Stam, HW Jensen - Proceedings of the 28th annual conference on Computer ..., 2001 - portal.acm.org

... The key to realistic **animation** of **smoke** is to make it look like a passive natural phenomena as opposed to a "living" creature made out of **smoke**. ...

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[Rendering and **animation** of gaseous phenomena by combining fast volume and scanline A-buffer ...](#)

DS Ebert, RE Parent - Proceedings of the 17th annual conference on Computer ..., 1990 - portal.acm.org

... objects and is especially useful for rendering scenes containing gaseous phenomena such as clouds, fog, and **smoke**. The rendering and **animation** of these ...

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[Keyframe control of **smoke** simulations - group of 9 »](#)

A Treuille, A McNamara, Z Popović, J Stam - ACM Transactions on Graphics (TOG), 2003 - portal.acm.org

... ion of the **animation**. One may manipulate the initial specifications of the simulation, such as viscosity, temperature, location and quantity of **smoke**, but ...

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[Flow volumes for interactive vector field visualization - group of 10 »](#)

N Max, B Becker, R Crawfis - Visualization, 1993. Visualization'93, Proceedings., IEEE ..., 1993 - ieeexplore.ieee.org

... The flow past a **smoke** or dye generator advects the tracer substance into a flow ... The result is an image or interactive **animation** simulating the results of the ...

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[Volcanic **smoke animation** using cml - group of 3 »](#)

R Mizuno, Y Dobashi, T Nishita - Proc. of International Computer Symposium 2002, 2002 - mizuno.org

Page 1. Volcanic **Smoke Animation** using CML ... Abstract The **animation** of volcanic **smoke** is useful for natural disaster simulations, entertainments, etc. ...

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[Virtual **Smoke**: an interactive 3D flow visualization technique - group of 2 »](#)

KL Ma, PJ Smith - Visualization, 1992. Visualization'92, Proceedings., IEEE ..., 1992 - ieeexplore.ieee.org

... are reached by the injected "**smoke**" within a user defined and preselected time interval and render only those voxels at each **animation** update; however ...

[Cited by 17](#) - [Related Articles](#) - [Web Search](#)

[Animation and Simulation Techniques for VR-Training Systems in Endoscopic Surgery - group of 2 »](#)

HK Çakmak, U Kühnapfel - Eurographics Workshop on Animation and Simulation, 2000 - iregt1.iai.fzk.de

... The **smoke animation** is based on Perlin's turbulence function [Per85] to create a volume block with a **smoke** density distribution. ...

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[Modelling of **smoke** flow taking obstacles into account - group of 7 »](#)

S Yoshida, T Nishita - Computer Graphics and Applications, 2000. Proceedings. The ..., 2000 - ieeexplore.ieee.org

... **smoke**. Stam et al. proposed a method using the same equations [191]. They solved the equations in a faster and more stable way for real-time **animation**, but ...

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DS Ebert, RE Parent - Proceedings of the 17th annual conference on Computer ..., 1990 - portal.acm.org
... for rendering scenes containing gaseous phenomena such as clouds, fog, and **smoke**. ...
1 James F. Blinn, Light reflection functions for **simulation** of clouds and ...
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R Fedkiw, J Stam, HW Jensen - Proceedings of the 28th annual conference on Computer ..., 2001 - portal.acm.org
Visual **Simulation** of **Smoke** Ronald Fedkiw & ... Abstract In this paper, we propose a new approach to numerical **smoke simulation** for computer graphics applications. ...
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[Virtual environments for shipboard firefighting training - group of 5 »](#)

DL Tate, L Sibert, T King - Proceedings of the 1997 Virtual Reality Annual International ..., 1997 - doi.ieeecomputersociety.org
... 9], with modifications and additions to support the 3D joystick interface, the "fly where you point" metaphor, and improved fire and **smoke simulation**. Fig. ...
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HW Jensen, PH Christensen - Proceedings of the 25th annual conference on Computer ..., 1998 - portal.acm.org
... Efficient **simulation** of light transport in scences with participating media using photon maps. Full text, pdf formatPdf (10.04 MB). ...
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[An image synthesizer - group of 2 »](#)

K Perlin - Proceedings of the 12th annual conference on Computer ..., 1985 - portal.acm.org
... 1978. 3 Gardner, G., "**Simulation** of natural scenes using textured quadric surfaces," Computer Graphics, vol. 18, no. 3, July 1984. ...
[Cited by 671](#) - [Related Articles](#) - [Web Search](#)

[Keyframe control of smoke simulations - group of 9 »](#)

A Treuille, A McNamara, Z Popović, J Stam - ACM Transactions on Graphics (TOG), 2003 - portal.acm.org
... Ideally, in the domain of **smoke simulation**, animators could specify a set of suggestive keyframes describing the desired behav- ior. ...
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[Using virtual environments to train firefighters - group of 6 »](#)

DL Tate, L Sibert, T King - Computer Graphics and Applications, IEEE, 1997 - ieeeexplore.ieee.org
... 10 with modifications and additions to support the 3D joystick interface, the "fly where you point" metaphor, and improved fire and **smoke simulation**. ...
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[BOOK] [Survey of Computer Models for Fire and Smoke](#)

R Friedman - 1990 - Factory Mutual Research
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[CITATION] [Two-dimensional visual simulation of flames, smoke and the spread of fire](#)

N Chiba, K Muraoka, H Takahashi, M Miura - The Journal of Visualization and Computer Animation, 1994
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IEE JNL IEE Journal or Magazine

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IEE CNF IEE Conference Proceeding

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1 [Keyframe control of smoke simulations](#)



Adrien Treuille, Antoine McNamara, Zoran Popović, Jos Stam

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

Publisher: ACM Press

Full text available:  [pdf\(1.01 MB\)](#)  [mov\(23:39 MIN\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We describe a method for controlling smoke simulations through user-specified keyframes. To achieve the desired behavior, a continuous quasi-Newton optimization solves for appropriate "wind" forces to be applied to the underlying velocity field throughout the simulation. The cornerstone of our approach is a method to efficiently compute exact derivatives through the steps of a fluid simulation. We formulate an objective function corresponding to how well a simulation matches the user's keyframes ...

Keywords: fluid simulation, inverse control, optimization


2 [Physically based modeling and animation of fire](#)



Duc Quang Nguyen, Ronald Fedkiw, Henrik Wann Jensen

July 2002 **ACM Transactions on Graphics (TOG)**, **Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH '02**, Volume 21 Issue 3

Publisher: ACM Press

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We present a physically based method for modeling and animating fire. Our method is suitable for both smooth (laminar) and turbulent flames, and it can be used to animate the burning of either solid or gas fuels. We use the incompressible Navier-Stokes equations to independently model both vaporized fuel and hot gaseous products. We develop a physically based model for the expansion that takes place when a vaporized fuel reacts to form hot gaseous products, and a related model for the similar ex ...

Keywords: blackbody radiation, chemical reaction, fire, flames, implicit surface, incompressible flow, smoke, stable fluids, vorticity confinement


3 [Smoke simulation for large scale phenomena](#)



Nick Rasmussen, Duc Quang Nguyen, Willi Geiger, Ronald Fedkiw

July 2003 **ACM Transactions on Graphics (TOG)**, Volume 22 Issue 3

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